

इंटरनेट

मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 9519 (2005): Fasteners - Hexagon products - Width across flats [PGD 31: Bolts, Nuts and Fasteners Accessories]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक
बंधन सामग्री — षटकोणीय उत्पाद —
फलैट के आर पार चौड़ाई
(पहला पुनरीक्षण)

Indian Standard
FASTENERS — HEXAGON PRODUCTS —
WIDTH ACROSS FLATS
(*First Revision*)

ICS 21.060.01

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

NATIONAL FOREWORD

This Indian Standard (First Revision) which is identical with ISO 272 : 1982 'Fasteners — Hexagon products — Width across flats' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendations of the Bolts, Nuts and Fasteners Accessories Sectional Committee and approval of the Medical Instruments, General and Production Engineering Division Council.

The original version of this standard was issued in 1980. This first revision has been made by adoption of latest edition of ISO 272 published in 1982 to make pace with the latest developments taken place at international level.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain terminology and conventions are, however, not identical to those used in Indian Standards. Attention is drawn especially to the following:

- a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.
- b) Comma (,) has been used as a decimal marker, while in Indian Standards, the current practice is to use a point (.) as a decimal marker.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

**FASTENERS — HEXAGON PRODUCTS —
WIDTH ACROSS FLATS**

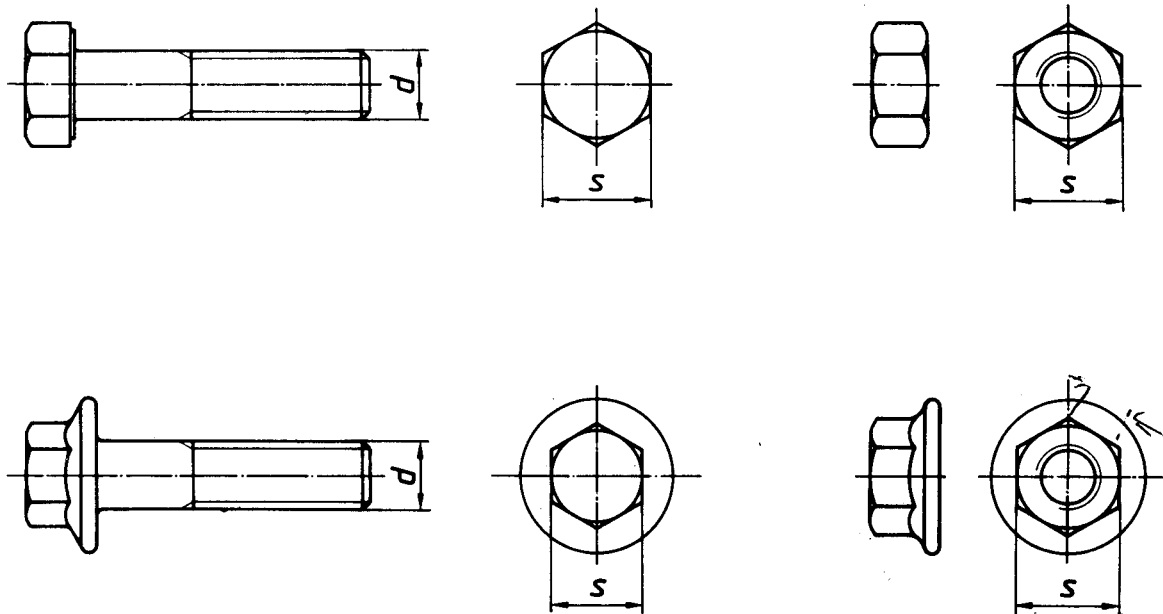
(First Revision)

1 Scope and field of application

This International Standard specifies widths across flats for hexagon products, for example hexagon head bolts and screws, hexagon nuts and hexagon flanged bolts, screws and nuts, to be used in the respective product standards.

It also specifies a logical ratio between underhead (or nut) bearing area (which determines the magnitude of the compressive stress on the bolted members relative to the clamping force applied by the fastener) and the tensile stress area of the screw thread (which governs the clamping force which can be developed by tightening the fastener for any particular strength class of fastener). This calculation technique was applied to each of the hexagon series so that a proper grading of bearing area/stress area ratios would be available to engineering designers.

2 Dimensions



Dimensions in millimetres

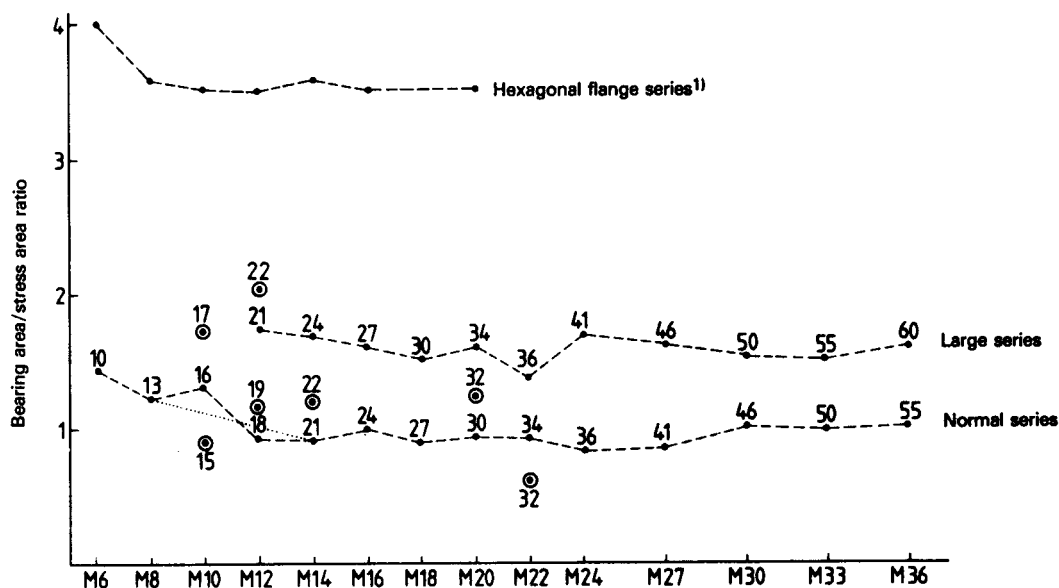
Thread diameter <i>d</i>	Width across flats <i>s</i>			
	Series	Flanged products		
	Normal	Large	Bolts	Nuts
1,6	3,2	—	—	—
2	4	—	—	—
2,5	5	—	—	—
3	5,5	—	—	—
4	7	—	—	—
5	8	—	7	8
6	10	—	8	10
7	11	—	—	—
8	13	—	10	13
10	16	—	13	15
12	18	21	15	18
14	21	24	18	21
16	24	27	21	24
18	27	30	—	—
20	30	34	27	30
22	34	36	—	—
24	36	41	—	—
27	41	46	—	—
30	46	50	—	—
33	50	55	—	—
36	55	60	—	—
39	60	65	—	—

Dimensions in millimetres

Thread diameter <i>d</i>	Width across flats <i>s</i> normal series
42	65
46	70
48	75
52	80
56	85
60	90
64	95
68	100
72	105
76	110
80	115
85	120
90	130
95	135
100	145
106	150
110	155
115	165
120	170
125	180
130	185
140	200
150	210

3 Ratio of bearing area to stress area

The following graph shows the ratios for the normal, large and hexagon flange series (hexagon flange bolts and nuts have common flange diameters), in each case the across-flats dimension being shown against the appropriate point on each curve. Old hexagon sizes have also been included to indicate the changes which were found necessary in the interests of international standardization and optimization.



1) Still under consideration.

Bureau of Indian Standards

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This Indian Standard has been developed from Doc: No. **MGP/BP 33 (0397)**.

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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